Sherwin-Williams/Hilliards Creek

New Jersey

EPA ID#: NJD980417976

EPA REGION 2

Congressional District(s): 01

Camden

Gibbsboro

NPL LISTING HISTORY
Proposed Date: 4/19/2006
Final Date: 3/19/2008

Site Description

The Sherwin-Williams/Hilliards Creek site is located in Gibbsboro, Camden County, New Jersey. The Sherwin-Williams/ Hilliards Creek site includes, but is not limited to, contaminated soil and ground water on the former Lucas Paint Works Plant (Lucas plant) and contaminated soil, sediment, and surface water associated with Hilliards Creek. The former Lucas plant encompassed 60 acres of land and was bounded to the north by Silver Lake and Route 561, to the east by United States (US) Avenue, to the south by vacant land, a cemetery, and Bridgewood Lake, and to the west by Clementon-Gibbsboro Road. Hilliards Creek, also known as Millard Creek, flows southwesterly through the former Lucas plant, under Foster Avenue, then turns west under W. Clementon Road, receives the outflow of Bridgewood Lake, and continues west to Kirkwood Lake. Approximately 1,000 feet upstream from Kirkwood Lake, Hilliards Creek receives surface water flow from Nichols Creek. It merges with the Cooper River just before it enters Kirkwood Lake.

The manufacturing history of John Lucas and Company began in 1849, and dry colors were among the first products manufactured. Dry color was the largest operation at the Lucas plant through the end of the 19th century. Chrome yellow and Prussian blue were the two major pigments produced at the Lucas plant. The Lucas plant made the first chrome greens and chrome yellows produced in America. The basic pigments used by the Lucas plant were lead and zinc oxides, white lead, non-lead chrome green, and chrome yellow. White lead was ground at the plant. Later, the Lucas plant produced 24 different varieties of varnish.

When it was owned and operated by the Sherwin-Williams Company, the plant included: an area for unloading raw materials from railroad cars; two tank farms for raw materials including storage tanks constructed prior to 1908; several storage areas for drummed raw materials; an industrial and domestic wastewater treatment and disposal system consisting of unlined percolation/settling lagoons; a solid waste disposal area for paint sludges; an extensive system of pipes to transport raw materials; and a drum cleaning area. Raw materials were mixed and processed in a number of specialized buildings located throughout the plant area. Raw materials stored on the plant included: naphtha (8,000 gallons); xylene (26,000 gallons); mineral spirits (100,000 gallons); toluene and solvent blends (65,000 gallons); as well as aromatic naphtha (1,500 gallons).

In June 1981, a majority of the Sherwin-Williams Company plant was sold to developer Robert K. Scarborough. Scarborough developed the former plant into a light industrial complex named The Paint Works Corporate Center (PWCC). The PWCC is made up of nine buildings. In December 1987, a portion of the former plant property was sold to Brandywine Realty Trust.

Site Responsibility: The site is currently being addressed through Federal action and potentially responsible party (PRP) involvement.

Threat and Contaminants

Former Manufacturing Plant Area: In 1976, New Jersey Department of Environmental Protection (NJDEP) directed Sherwin-Williams to conduct a subsurface investigation in the former lagoon area. According to the remedial investigation (RI) report, a sludge pit was located in the area of the lagoons. The depth of the sludge pit was 20 feet. Sludge was encountered at the base of the lagoons at depths of 2 to 5 feet. Twenty eight soil borings were drilled in the lagoon area to approximate the depth of contamination.

In January 1990, the NJDEP issued a Spill Act Directive to Scarborough (the owner of the Lucas plant property) and the Sherwin-Williams Company requiring that a remedial investigation and feasibility study (RI/FS) be conducted at the former manufacturing plant area and the adjacent lands. The Sherwin-Williams Company subsequently entered into an Administrative Consent Order (ACO) with NJDEP to conduct the RI/FS. The subsequent RI was conducted at the former

manufacturing plant area from August 1991 through January 2000. Groundwater seeps, which contained visible contamination (located on the facility), were identified as an area of Immediate Environmental Concern (IEC). Sherwin-Williams entered into an ACO with NJDEP to address this IEC.

Free-phase product is present in the groundwater at the former manufacturing plant area, near the areas of Building 50, 67, and former Tank Farm A. The free–phase product (non-aqueous phase liquids - NAPL) plume in groundwater near Building 50 and 67 was initially identified in 1983 when an oily substance was observed in the parking lot between former Building 50 and 67 (also known as the Academy Paints Building). The oily substance flowed overland to a storm water catch basin in the parking lot then into a storm sewer that ultimately discharged into Hilliards Creek. The product was observed on many occasions during construction of the PWCC that now occupies the former manufacturing plant area. The free-phase product composition includes: benzene, ethylbenzene, xylene, naphthalene, and 2-methylnaphthalene. Analysis of the product indicates that it is paint thinner.

In 1987, contaminated soil was identified in the area of Buildings 50 and 67 during a subsurface soil investigation. The source of the contaminated soil is the free-phase product. Soil samples were analyzed for priority pollutants and total petroleum hydrocarbons, revealing the presence of petroleum hydrocarbons, VOCs (xylene), SVOCs [pentachlorophenol, di-n-butyl phthalate, bis(2-ethylhexyl)phthalate)], cyanide, chromium, copper, and lead.

Numerous monitoring wells were installed throughout the former manufacturing plant area by the Sherwin-Williams Company. Data collected from these wells has shown the continued presence of volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs), and to a lesser extent inorganic compounds.

Hilliards Creek: On September 30, 1999, the Agency for Toxic Substances and Disease Registry ("ATSDR") concluded that based on available Hilliard Creek data, the Creek currently poses an urgent health hazard to children and adults who utilize the Site and recommended that exposure to individuals who frequent the Site should be eliminated and that further delineation of Site related media should be conducted.

Historic sampling, as well as more recent sampling performed during the 2005, 2006, and 2008 Remedial Investigation (RI) field sampling activities has indicated that inorganic hazardous substances such as arsenic and lead were detected at concentrations significantly above background levels in surface water, soil and sediment sampled from the site. In addition, based on the results of the 2005 and 2006 RI sampling results, EPA requested that RI sampling activities be performed in Kirkwood Lake (approximately 0.8 miles long), which is fed directly from Hilliards Creek. Soil and sediment samples collected from Kirkwood Lake have also exhibited concentrations of lead and arsenic at elevated concentrations.

In 2010 a Supplement Work Plan for all media (soil, sediment, surface water, and groundwater) was implemented at the former Sherwin-Williams paint plant (also referred to as the Former Manufacturing Plant). In addition, investigation into underground anomolies was also performed. This data is being compiled and will be sumitted to EPA and NJDEP in a comprehensive report (Report). The Report will also make recommendations for any further investigations at the Former Manufacturing Plant.

Cleanup Approach

Immediate Actions: In 1976, NJDEP directed the Sherwin-Williams Company to conduct a subsurface investigation in the former lagoon area. According to the RI report, a sludge pit was located in the area of the lagoons. The depth of the sludge pit was 20 feet. On August 17, 1978, NJDEP issued an AOC to the Sherwin-Williams Company to remove sludge in the area of the lagoons and to monitor ground water. In 1979, a total of 8,096 cubic yards of sludge was removed from the lagoon area. After the sludge was visibly removed, the lagoons were filled with clean fill. The removal was considered complete when all the visually identifiable sludge and contaminated soils were removed. Since the removal action was based on visually removing the waste, it cannot be documented that all the contamination was removed. The contamination associated with the releases to ground water and surface water has not been addressed.

During a 1996 EPA removal action, the Sherwin-Williams Company recovered 13,910 gallons of the mixture of nonhazardous liquid, water, and oil from the free-phase product groundwater plume and disposed the material off the property. After the removal action was completed, residual contamination remained in this area and Hilliards Creek. In November 1997, the installation of the Free Product Recovery (FPR) and Soil Vapor Extraction (SVE) systems were completed east and north of Building 67 and south of Building 50.

On April 9, 2002, free-phase product from the FPR system was observed in the storm water drain north of former Building 67 and in Hilliards Creek. Product was pumped out of the storm water drain, and additional measures were taken to prevent further releases to the drain and Hilliards Creek.

ENTIRE SITE: On September 30, 1999, EPA issued an AOC to The Sherwin-Williams Company to conduct a Remedial Investigation and Feasibility Study (RI/FS). The objective of the RI/FS is to determine the full nature and extent of

contamination and any potential threats to the public health, welfare, or the environment caused by any release or threatened release of hazardous substances, pollutants, or contaminants in connection with the Site; and to determine and evaluate alternatives for the remediation or control of any release or threatened release in connection with the Site. The Sherwin-Williams Company initiated RI field sampling activities in the spring of 2005. RI field sampling operations included the collection of: soil, sediment, surface water and groundwater samples. Additional RI field sampling activities were performed in Hilliards Creek during 2006. In 2007, surface water, sediment and soil sampling operations were performed in Kirkwood Lake (downstream from Hilliards Creek), sampling has revealed that arsenic and lead are present in the soil and sediment. Additional sampling was performed in Kirkwood Lake in 2008 to delineate the vertical extent of sediment contamination.

EPA requested that the Sherwin-Williams Company submit a Supplemental RI Work Plan for the former manufacturing plant area - to include: soil and sediment sampling within Silver Lake; redevelopment and subsequent sampling of all on-site groundwater monitoring wells; additional investigation into previously identified geophysical anomalies; and a site-wide intensive soil sampling program. The Work Plan for all items identified by EPA as requiring sampling was approved by the EPA and NJDEP in July 2009. The sampling activities for this approved Work Plan commenced in October 2009 and continued through 2010. The data from all sampling activities is being compiled and will be presented to EPA and NJDEP for review.

In the fall of 2010 soil sampling was also performed at several homes adjacent to Hilliards Creek. The data will be reviewed and recommendations will be made based on the results. It is also anticipated that a residential soil sampling program will be implemented in 2011 for the homes along Kirkwood Lake. Finally, additional soil and sediment sampling will be performed within Kirkwood Lake.

Cleanup Progress

A total of 8,096 cubic yards of sludge was removed from the former lagoon area. After the sludge was visibly removed, the lagoons were filled in with clean fill. The removal was considered complete when all the visually identifiable sludge and contaminated soils were removed.

Sherwin-Williams recovered 13,910 gallons of the mixture of non-hazardous liquid, water, and oil from a free-phase product groundwater plume and disposed of the material off the property. In November 1997, the installation of the FPR and SVE system was completed east and north of former Building 67 and south of former Building 50. As of June 20, 2002, a total of 44,785 gallons of product have been recovered and removed off site for disposal since startup of the system in November 1997. Approximately 8,275 gallons of this total volume collected was primarily product from the product recovery tank. The remaining 36,510 gallons of product were collected during the ground water seep response and recovery efforts associated with the FPR and SVE system.

In addition, a September 1999 Removal AOC with EPA required the Sherwin-Williams Company to install fencing around the former Wildlife Refuge area of Hilliard's Creek. This area once contained a nature-trail which permitted local residents access to areas of the impacted creek (soils, surface water, and sediment). Through these efforts, EPA has reduced the short-term risks associated with exposure to the inorganic hazardous substances.

Site Repositories

Copies of the RI/FS Work Plan, Field Sampling Plan and Quality Assurance Project Plan can be found at the Gibbsboro Borough Hall/Library at 49 Kirkwood Road, located in Camden County, Gibbsboro, New Jersey; additional copies can be found at the Camden County Public Library, 203 Laurel Road, Voorhees Township, New Jersey.